

Serial No. 09/502,176

Title: Deglycosylated Kringle 1-3 Region Fragments of Plasminogen and Methods of Use

Third Amendment and Response to Office Action

Filed: February 10, 2000

Page 6

REMARKS

The above-identified patent application is directed to a composition comprising a deglycosylated kringle 1-3 region fragment of a plasminogen protein. Claims 1-4, 6-12, 15, 16 and 27 are pending in the present patent application. Claim 27 was allowed. Reexamination and reconsideration of the application are requested in view of the following remarks.

Specification

Applicants respectfully submit herewith a new Substitute Specification. The attached substitute specification does not contain any new matter, or lined through or underlined text.

Claim Rejections under 35 U.S.C. §112, first paragraph.

The Examiner rejected Claims 1-4, 6-12, 15 and 16 under 35 U.S.C. §112, first paragraph, for reasons of insufficient written description. Applicants respectfully traverse the rejection.

The Examiner contends that the specification provides insufficient support for kringle 1-3 plasminogen fragments other than those of human plasminogen. Applicants respectfully disagree. Applicants respectfully assert that they provided sufficient support in the application for a composition comprising any kringle 1-3 region fragment of plasminogen. As a preferred embodiment of the applicants' invention, the specification describes a kringle 1-3 region fragment of human plasminogen. It is well known to the persons skilled in the art that sequences of plasminogen molecules from different species are highly conserved, especially

Serial No. 09/502,176

Title: Deglycosylated Kringle 1-3 Region Fragments of Plasminogen and Methods of Use

Third Amendment and Response to Office Action

Filed: February 10, 2000

Page 7

within their kringle regions. When such high degree of sequence similarity is present, in order to locate a kringle 1-3 region fragment in a plasminogen molecule of any species, one skilled in the art only needs to compare the plasminogen sequence against the sequence of the human kringle 1-3 region fragment. Plasminogen sequences from different species are, and were at the time of the invention, widely available from publicly accessible databases and literature sources. Thus, given insubstantial variation among plasminogen molecules of different species, description of kringle 1-3 region fragment of human plasminogen adequately supports the entire genus of kringle 1-3 region fragments of plasminogen. Additional written description of applicants' invention is found in the specification as follows (the page and line numbers refer to the Substitute Specification submitted with this Response). The specification states on page 10, line 32, through page 11, line 1, that "the terms "deglycosylated kringle 1-3 region protein" and "deglycosylated fragment" refer to a fragment of a kringle 1-3 region of a plasminogen protein of any species that lacks carbohydrate at a position that may be otherwise glycosylated in nature" (emphasis added). The specification also states on page 12, lines 5-8, that "the present invention includes fragments of kringle 1-3 regions of a plasminogen from a species other than a human" (emphasis added). On page 14, lines 1-3, "any deglycosylated kringle 1-3 region protein derivatives" are contemplated. Suitable derivatives are described on lines 21-24 of the same page as having "modified sequences which are substantially homologous to the amino acid sequence of a kringle 1-3 region protein." Therefore, the present application provides sufficient information to one skilled in the art to reasonably conclude that, at the time of the invention, applicants had possession of the entire genus of kringle 1-3 region fragments of plasminogen. Applicants respectfully assert that the present specification describes the claimed invention in

Serial No. 09/502,176

Title: Deglycosylated Kringle 1-3 Region Fragments of Plasminogen and Methods of Use

Third Amendment and Response to Office Action

Filed: February 10, 2000

Page 8

sufficient detail that one skilled in the art can reasonably concluded that applicants had possession of the claimed invention.

In view of the foregoing, applicants respectfully assert that the specification adequately supports currently pending claims. Applicants respectfully request withdrawal of the rejection.

Allowed Claims

The Examiner indicated that Claim 27 was allowed.

Serial No. 09/502,176

Title: Deglycosylated Kringle 1-3 Region Fragments of Plasminogen and Methods of Use

Third Amendment and Response to Office Action

Filed: February 10, 2000

Page 9

CONCLUSION

The foregoing is submitted as a full and complete response to the non-final Office Action mailed May 13, 2003. Applicants respectfully submit that the claims comply with the written description requirements. Applicants assert that the claims are now in condition for allowance and respectfully request that the application be passed to issuance. If the Examiner believes that any informalities remain in the case which may be corrected by Examiner's amendment, or that there are any other issues which can be resolved by a telephone interview, a telephone call to the undersigned agent at (404) 815-6102 is respectfully solicited.

No additional fees are believed due, however, the Commissioner is hereby authorized to charge any deficiencies which may be required or credit any overpayment to Deposit Account Number 11-0855.

Respectfully submitted,

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